

REMARKS

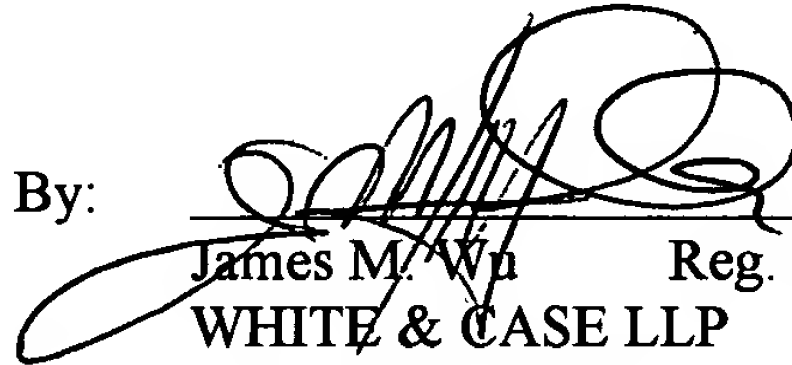
Pursuant to 37 C.F.R. § 1.131, Applicants respectfully request the Examiner to enter the enclosed affidavit for the above-referenced patent application. The affidavit establishes that the present invention is invented prior to March 29, 1999. Reconsideration of this application in light of the affidavit is respectfully requested.

Applicants believe that all claims, Claims 54-97, now pending in the present application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested. If there is a fee associate with this affidavit, please charge to White & Case LLP Deposit Account 23-1703. Applicants thank the Examiner for carefully examining the present application.

Respectfully submitted,

Dated: August 3, 2004

By:


James M. White Reg. No. 45,241
WHITE & CASE LLP
1155 Avenue of the Americas
New York, NY 10036
(650) 213-0300

E6523 Process

5/4/2004
11:47 AM
Page 1

Emcore Process Printout

This process is stored in the file :
Directory : \\mat\sys\User\ech6\runs
Filename : E6523TJN.ERF

Total Run Time : 94.501 min

This printout contains the following fields :
Process Control Line Set Point
Process Control Line Command

Process comments :

NUC66 recipe: P drive-in instead of As drive-in
2P, 3P mixed platter with new pockets
BASELINE: e6517 WITH MODIFICATIONS AND SPECIFICS
Modifications: Baseline for TJN runs
Layer30, Time 1.9>0.95 min (InGaAlP BSF), InGaP base 10>6.5 min
Purpose: P drive-in with InGaP nucleation

Test: Surfscan, Polaron, PL, and V-probe

5/4/2004
11:47 AM
Page 2

Emcore Process Printout

| | Layer # 1 4.000min | Layer # 2 6.000min | Layer # 3 6.000min | Layer # 4 2.000min | Layer # 5 2.000min |
|-----------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| TMA1_7 | 400.00ccm I | 400.00ccm I | 400.00ccm V | 650.00ccm V | 852.00ccm V |
| TMA1#1 Pres_23 | 250.0Tor R | 250.0Tor R | 250.0Tor R | 250.0Tor R | 250.0Tor R |
| TMA1#1_7 MoleFr | 0.5700per I | 0.5700per I | 0.5700per I | 0.5700per I | 0.5700per I |
| TMGa#1_4 | 41.00ccm I | 41.00ccm I | 41.00ccm I | 41.00ccm I | 41.00ccm V |
| TMGa#1 Pres_20 | 950.0Tor R | 950.0Tor R | 950.0Tor R | 950.0Tor R | 950.0Tor R |
| TMGa#2_5 | 140.00ccm I | 140.00ccm I | 140.00ccm I | 140.00ccm I | 140.00ccm I |
| TMGa#2 Pres_21 | 350.0Tor | 350.0Tor | 350.0Tor | 350.0Tor | 350.0Tor |

| E6523 Process | | | | | |
|---------------|----------------|----------------|----------------|----------------|----------------|
| | R | R | R | R | R |
| TEGa_6 | 36.10ccm I | 36.10ccm I | 36.10ccm I | 36.10ccm I | 36.10ccm I |
| TEGa Pres_22 | 475.0Tor R | 475.0Tor R | 475.0Tor R | 475.0Tor R | 475.0Tor R |
| Ash3#2_42 | 0.0ccm V | 0.0ccm V | 0.0ccm V | 0.0ccm V | 0.0ccm V |
| PH3_43 | 0ccm V | 400ccm R | 400ccm R | 400ccm R | 1800ccm R |
| CCl4_1 | 200.00ccm I | 200.00ccm I | 200.00ccm I | 200.00ccm I | 200.00ccm I |
| CCl4 Dil_57 | 200.0ccm R | 200.0ccm R | 200.0ccm R | 200.0ccm R | 200.0ccm R |
| CCl4 mix_58 | 133.00ccm R | 133.00ccm R | 133.00ccm R | 133.00ccm R | 133.00ccm R |
| CCl4 Pres_17 | 300.0Tor R | 300.0Tor R | 300.0Tor R | 300.0Tor R | 300.0Tor R |

5/4/2004
11:47 AM
Page 3

| Emcore Process Printout | | | | | |
|-------------------------|----------------|----------------|----------------|----------------|----------------|
| | Layer # 6 | Layer # 7 | Layer # 8 | Layer # 9 | Layer # 10 |
| | 0.200min | 0.650min | 3.000min | 0.200min | 12.000min |
| TMA1_7 | 852.00ccm V | 852.00ccm R | 400.00ccm I | 400.00ccm I | 400.00ccm I |
| TMA1#1 Pres_23 | 250.0Tor R | 250.0Tor R | 250.0Tor R | 250.0Tor R | 250.0Tor R |
| TMA1#1_7 MoleFr | 0.5700per R | 0.5700per R | 0.6000per I | 0.6000per I | 0.6000per I |
| TMGa#1_4 | 41.00ccm V | 41.00ccm R | 100.00ccm V | 100.00ccm V | 100.00ccm R |
| TMGa#1 Pres_20 | 950.0Tor R | 950.0Tor R | 950.0Tor R | 950.0Tor R | 950.0Tor R |
| TMGa#2_5 | 140.00ccm I | 140.00ccm I | 140.00ccm V | 140.00ccm V | 140.00ccm R |
| TMGa#2 Pres_21 | 350.0Tor R | 350.0Tor R | 350.0Tor R | 350.0Tor R | 350.0Tor R |
| TEGa_6 | 36.10ccm I | 36.10ccm I | 36.10ccm I | 36.10ccm I | 36.10ccm I |

| | | | | | |
|---------------|----------------|----------------|----------------|----------------|----------------|
| E6523 Process | | | | | |
| TEGa Pres_22 | 475.0Tor R | 475.0Tor R | 475.0Tor R | 475.0Tor R | 475.0Tor R |
| ASH3#2_42 | 0.0ccm V | 0.0ccm V | 0.0ccm V | 1200.0ccm V | 1200.0ccm R |
| PH3_43 | 2000ccm R | 2000ccm R | 400ccm R | 400ccm R | 0ccm V |
| CC14_1 | 200.00ccm I | 200.00ccm I | 200.00ccm I | 200.00ccm I | 200.00ccm I |
| CC14 Dil_57 | 200.0ccm R | 200.0ccm R | 200.0ccm R | 200.0ccm R | 200.0ccm R |
| CC14 mix_58 | 133.00ccm R | 133.00ccm R | 133.00ccm R | 133.00ccm R | 133.00ccm R |
| CC14 Pres_17 | 300.0Tor R | 300.0Tor R | 300.0Tor R | 300.0Tor R | 300.0Tor R |

5/4/2004
11:47 AM
Page 4

| | | | | | |
|-------------------------|----------------|----------------|----------------|----------------|----------------|
| Emcore Process Printout | | | | | |
| | Layer # 11 | Layer # 12 | Layer # 13 | Layer # 14 | Layer # 15 |
| | 2.400min | 0.100min | 1.330min | 0.500min | 1.000min |
| TMA1_7 | 400.00ccm I | 400.00ccm I | 400.00ccm I | 400.00ccm I | 400.00ccm I |
| TMA1#1 Pres_23 | 250.0Tor R | 250.0Tor R | 250.0Tor R | 250.0Tor R | 250.0Tor R |
| TMA1#1_7 MoleFr | 0.6000per I | 0.6000per I | 0.6000per I | 0.6000per I | 0.6000per I |
| TMGa#1_4 | 100.00ccm R | 54.17ccm V | 54.17ccm R | 54.17ccm V | 54.17ccm R |
| TMGa#1 Pres_20 | 950.0Tor R | 950.0Tor R | 950.0Tor R | 950.0Tor R | 950.0Tor R |
| TMGa#2_5 | 140.00ccm R | 140.00ccm I | 140.00ccm I | 140.00ccm I | 140.00ccm V |
| TMGa#2 Pres_21 | 350.0Tor R | 350.0Tor R | 350.0Tor R | 350.0Tor R | 350.0Tor R |
| TEGa_6 | 36.10ccm I | 36.10ccm V | 36.10ccm V | 36.10ccm V | 36.10ccm R |
| TEGa Pres_22 | 475.0Tor R | 475.0Tor R | 475.0Tor R | 475.0Tor R | 475.0Tor R |
| ASH3#2_42 | 1200.0ccm R | 400.0ccm R | 400.0ccm R | 400.0ccm R | 400.0ccm R |

E6523 Process

| | | | | | |
|--------------|----------------|----------------|----------------|----------------|----------------|
| PH3_43 | 0ccm V | 0ccm V | 0ccm V | 0ccm V | 0ccm V |
| CCl4_1 | 200.00ccm V | 200.00ccm V | 200.00ccm V | 200.00ccm V | 200.00ccm R |
| CCl4 Dil_57 | 200.0ccm R | 200.0ccm R | 200.0ccm R | 200.0ccm R | 200.0ccm R |
| CCl4 mix_58 | 133.00ccm R | 133.00ccm R | 133.00ccm R | 133.00ccm R | 133.00ccm R |
| CCl4 Pres_17 | 300.0Tor R | 300.0Tor R | 300.0Tor R | 300.0Tor R | 300.0Tor R |

5/4/2004
11:47 AM
Page 5

Emcore Process Printout

| | Layer # 16 1.000min | Layer # 17 0.100min | Layer # 18 9.000min | Layer # 19 3.000min | Layer # 20 2.000min |
|-----------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| TMAI_7 | 400.00ccm I | 400.00ccm I | 400.00ccm I | 400.00ccm V | 650.00ccm V |
| TMAI#1 Pres_23 | 250.0Tor R | 250.0Tor R | 250.0Tor R | 250.0Tor R | 250.0Tor R |
| TMAI#1_7 MoleFr | 0.6000per I | 0.6000per I | 0.6000per I | 0.6000per I | 0.6000per I |
| TMGa#1_4 | 54.17ccm R | 100.00ccm V | 100.00ccm R | 100.00ccm R | 100.00ccm R |
| TMGa#1 Pres_20 | 950.0Tor R | 950.0Tor R | 950.0Tor R | 950.0Tor R | 950.0Tor R |
| TMGa#2_5 | 140.00ccm V | 140.00ccm V | 140.00ccm R | 140.00ccm R | 140.00ccm R |
| TMGa#2 Pres_21 | 350.0Tor R | 350.0Tor R | 350.0Tor R | 350.0Tor R | 350.0Tor R |
| TEGa_6 | 36.10ccm R | 36.10ccm I | 36.10ccm I | 36.10ccm I | 103.00ccm I |
| TEGa Pres_22 | 475.0Tor R | 475.0Tor R | 475.0Tor R | 475.0Tor R | 475.0Tor R |
| ASH3#2_42 | 1000.0ccm R | 1200.0ccm R | 1200.0ccm R | 1200.0ccm R | 1200.0ccm R |
| PH3_43 | 0ccm V | 0ccm V | 0ccm V | 0ccm V | 0ccm V |
| CCl4_1 | 50.00ccm | 200.00ccm | 200.00ccm | 200.00ccm | 200.00ccm |



Joe Conklin/Emcore
05/05/2004 07:06 AM

To Paul Sharps/Emcore@Emcore
cc Rick Stall/Emcore@Emcore
bcc
Subject Re: Fw: GaInP2 Nucleation

Exploring - Runs E6426-6600

File Edit View Go Favorites Tools Help

Back Forward Up Cut Copy Paste Undo Delete Properties Views

Address D:\ECH6\Solar Cell Archives\Icarus\Runs E6426-6600

| Folders | Name | Size | Type | Modified |
|--|----------|------|----------|----------|
| Condensed Runs 2003 | E6519tjn | 18KB | ERF File | |
| Ech7 | E6520tjn | 18KB | ERF File | |
| ECR Recipes | E6521tjn | 18KB | ERF File | |
| Elta Pins condensed runs 2001 | E6522tjn | 18KB | ERF File | |
| Emcore | E6523tjn | 19KB | ERF File | |
| Golden | E6524tjn | 18KB | ERF File | |
| Maintenance | E6525tjn | 18KB | ERF File | |
| Motion | E6527std | 13KB | ERF File | |
| Qs | E6528std | 18KB | ERF File | |
| Recipes History | E6529std | 18KB | ERF File | |
| Runs | E6530tjn | 18KB | ERF File | |
| Solar Cell Archives | E6531tjn | 19KB | ERF File | |
| Aleruns | E6532tjn | 19KB | ERF File | |
| Dev_arc | E6533tjn | 19KB | ERF File | |
| Dev_CondensedRuns | E6534tjn | 18KB | ERF File | |
| EPVCondensedRuns | E6535tjn | 20KB | ERF File | |
| Icarus | E6536tjn | 18KB | ERF File | |
| Runs E6100-E6150 | E6537tjn | 18KB | ERF File | |
| Runs E6150-E6200 | E6538plt | 18KB | ERF File | |
| Runs E6200-E6300 | E6539plt | 18KB | ERF File | |
| Runs E6300-E6375 | E6540std | 13KB | ERF File | |
| Runs E6376-E6425 | E6541plt | 18KB | ERF File | |
| Runs E6426-6600 | E6542plt | 18KB | ERF File | |
| Runs-E6027-E6149 | E6543brg | 6KB | ERF File | |
| Icarus Condensed Runs | E6544ugs | 5KB | ERF File | |
| Retired Recipes | E6545ple | 8KB | ERF File | |
| Saved | E6546ple | 8KB | ERF File | |
| Special Teams | E6547ple | 8KB | ERF File | |
| Yield enhancement | E6548ple | 8KB | ERF File | |
| Sys on 'Mfg' (E:) | E6549ngp | 9KB | ERF File | |
| D_drive on 'Dcdxray' (F:) | E6550ngp | 9KB | ERF File | |
| Aadatafolder on 'Eemxpert' (G:) | E6551ngp | 9KB | ERF File | |
| Interdepartmental on 'Njsomsfs01' (I:) | E6552ngp | 9KB | ERF File | |
| Sys on 'Mat' (M:) | E6553ngp | 7KB | ERF File | |
| users on 'njsomsfs01.emcore.us' (P:) | | | | |

217 object(s) 3.16MB (Disk free space: 0 bytes)

Start New Memo - Lotus Notes Exploring - Ech6 Exploring - Runs E64...

Paul Sharps